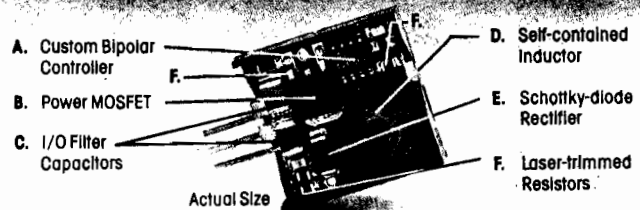


INNOVATION OF THE YEAR AWARD WINNER



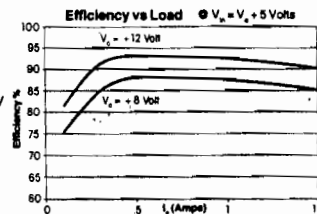
THE SMALLEST, MOST EFFICIENT, EASY-TO-USE 1.5 AMP DC-DC CONVERTER AVAILABLE TODAY!

If you're designing battery-powered products such as notebook/laptop computers, cellular telephones, or products using distributed power—you need a small, efficient, and easy-to-use power converter. You need Power Trends' new DC-DC converter—the power supply product that beat out all competition last year for the prestigious EDN Innovation of the Year Award.

MOST EFFICIENT

SMALLEST

- 0.88" x 0.92" x 0.30" cubic inch
- 35 to 100 watts/technology



EASY TO USE

- Self-contained Inductor
- No heat sinks
- V_O laser trimmed
- Pin-compatible/78-series linears

FREE SAMPLES TO QUALIFIED USERS.

This tiny innovative product that won the vote of EDN editors and its thousands of readers in 1990 has since proven itself in a diversity of end-product designs. And now this same breakthrough product is available

to you at a lower cost-per-watt than conventional DC-DC converter solutions. For more information or a free sample, call Power Trends today or FAX your request with your business card to the number below.



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Trendsetter

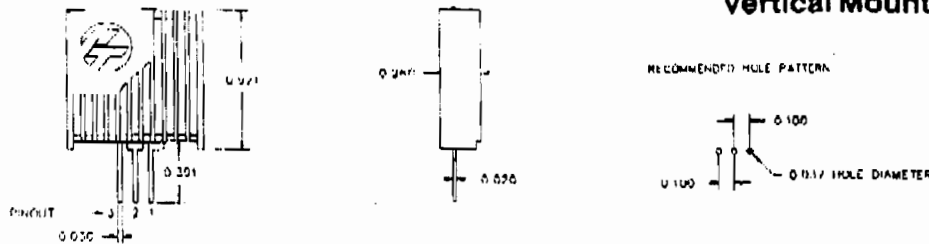
1.5 AMP POSITIVE STEP-DOWN INTEGRATED SWITCHING REGULATOR



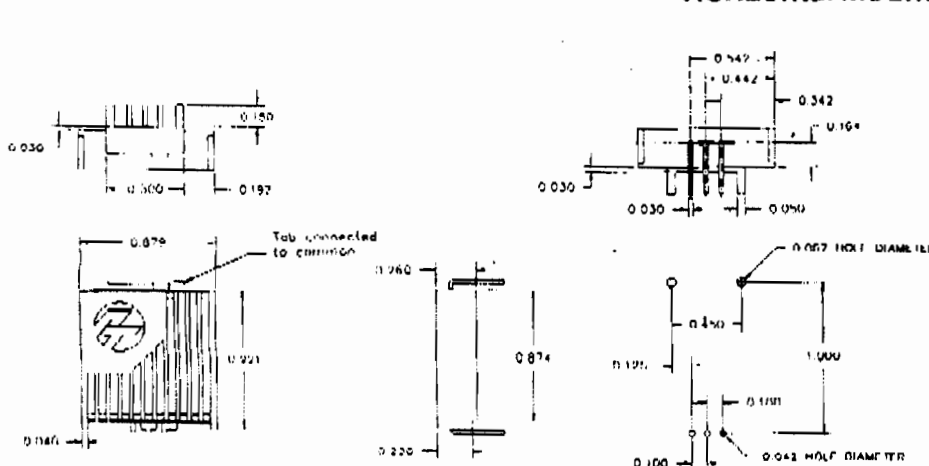
Trendsetter™ 78SR "C" Series is a new line of 3-Terminal Integrated Switching Regulators (ISR's) that are as easy to use as linear 3-terminal regulators. These ISR's have a maximum output current of 1.5 Amps and an output voltage that is laser trimmed to industry standard voltages. They have excellent line and load regulation with internal short circuit and over-temperature protection.

- State-of-the-Art Power Density >90 Watts per Cubic Inch
- High Efficiency >85%
- Self-Contained Inductor
- Internal Short Circuit and Over-Temperature Protection
- Pin Compatible with Existing Linear 3-Terminal, "78" Series Regulators

Vertical Mount



Horizontal Mount



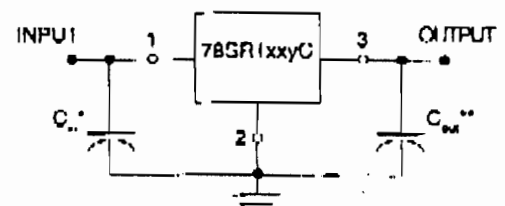
Pin-Out Information

78SR "C" Series Positive Regulators

Pin	1	INPUT	(right)
	2	COMMON	(center)
	3	OUTPUT	(left)

(As viewed from the finned side)

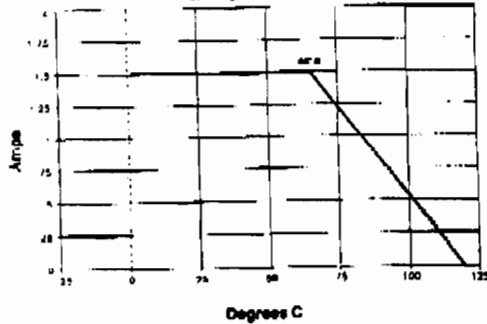
Standard Application



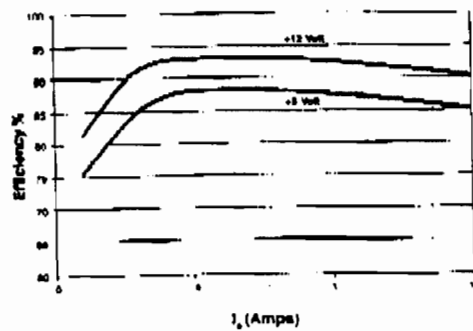
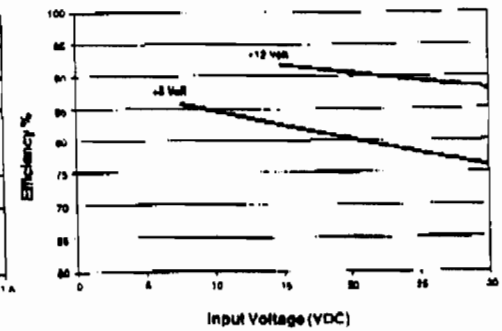
* Optional low ESR electrolytic

** Optional ceramic (1μF)

Temperature Derating

Output Current vs Operating Ambient Temperature
 $V_{in} = V_o + 3$ Volts

Performance Data

Efficiency vs Load
 $V_{in} = V_o + 5$ VoltsEfficiency vs Input Voltage
 $I_o = 1.5$ Amp

Specifications

Characteristics ($T_a = 25^\circ\text{C}$ unless noted)	Symbols	Conditions	78SR1xyC			Units
			Min	Typ	Max	
Output Current	I_o	Over V_{in} range	0.1	-	1.5	Amps
Current Limit	I_{OL}	$V_{in} = V_o + 3\text{V}$	-	1.8	-	Amps
Short Circuit Current	I_{sc}	$V_{in} = V_o + 3\text{V}$	-	3.5	-	Amps
Input Voltage Range	V_{in}	$I_o = 1.5$ Amp $V_o = 5\text{V}$ $I_o = 1.5$ Amp $V_o = 12\text{V}$	$V_o + 2\text{V}$ $V_o + 2.5\text{V}$	-	30	Volts
Reflected Ripple	I_r	$V_{in} = V_o + 5\text{V}$, $I_o = 1$ Amp $Z_{source} = 1 \text{ (K)}$	-	15	-	mA _{pp}
Static Voltage Tolerance	ΔV_o	Over V_{in} range, $I_o = 1$ Amp $T_a = -40$ to $+65^\circ\text{C}$	-	± 1.0	± 2.0	% V_o
Ripple Rejection	RR	Over V_{in} range	-	45	-	db
Line Regulation	Reg_{line}	Over V_{in} range	-	± 0.2	± 0.4	% V_o
Load Regulation	Reg_{load}	$0.15 \leq I_o \leq 1.5$ Amp	-	± 0.1	± 0.2	% V_o
Ripple/Noise	V_n	$V_{in} = 8\text{V}$, $I_o = 1.5$ A, $V_o = 5\text{V}$ $V_{in} = 15\text{V}$, $I_o = 1.5$ A, $V_o = 12\text{V}$	-	50 80	-	mV _{pp}
Transient Response	t_r	50% load change $V_o \leq 1\%$ recovery	-	-	100	μsec
Operating Temperature	T_a	$V_{in} = V_o + 3\text{V}$, $I_o = 1.5$ Amp	-40	-	+65	$^\circ\text{C}$
Storage Temperature	T_s	-	-65	-	+150	$^\circ\text{C}$
Efficiency	η	$V_{in} = 10\text{V}$, $V_o = 5\text{V}$ Volts, $I_o = 1$ Amp $V_{in} = 17\text{V}$, $V_o = 12$ Volts, $I_o = 1$ Amp	-	85 90	-	%
Switching Frequency	f_s	-	-	650	-	KHz
EMI/RFI	-	Over V_{in} range, $I_o = 1.5$ Amp	Meets FCC Class B			
Mechanical Shock	-	-	-	-	50	G's
Weight	-	-	-	0.25 7.0	-	Ounces Grams
Relative Humidity	-	Non-condensing	0	-	95	%

(Specifications subject to change without prior notice)

Ordering Information

78SR1 **xx** **y** C 1.5 Amp Positive Integrated Switching Regulator**xx** = Output Voltage**y** = Package Style**05** = 5.0 Volts**V** = Vertical Mount**09** = 9.0 Volts**H** = Horizontal Mount**12** = 12 Volts**POWER TRENDS**

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